

# CLAUDIA CAULI

Applied Scientist, Automated Reasoning Group  
Amazon Web Services, London

**INTERESTS** Provable techniques and formal methods for security and industry. Verification and falsification of standard and quantitative models. Logics and model checking.

## EMPLOYMENT

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10/2021 - current **Applied Scientist II** AWS, Automated Reasoning Group (ARG)

## PERSONAL DATA

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PHONE:	+44 (0)7402 109 418	SKYPE:	claudia.cauli
E-MAIL:	<a href="mailto:claudiacauli@gmail.com">claudiacauli@gmail.com</a>	LINKEDIN:	<a href="#">claudiacauli</a>
WEBPAGE:	<a href="http://www.claudiacauli.com">www.claudiacauli.com</a>	CODE:	<a href="#">GitHub</a> — <a href="#">BitBucket</a>

## EDUCATION

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10/2016 - 9/2021 **CSE PhD** University of Leicester & University of Gothenburg,  
Formal Methods for Threat Modeling **ADVISOR:** [Prof Nir Piterman](#)

9/2015 - 9/2016 **MSc in Advanced Computational Methods** University of Leicester, UK  
Awarded with **DISTINCTION** **AVG MARK:** 91/100

10/2013 - 7/2015 **BSc in Computer Science** Università di Cagliari, Italy  
*Three-Years Degree completed in Two Years* **110/110 CUM LAUDE**

## INTERNSHIPS

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*Summer '20* **Formal Verification Engineer Intern @ Apple** *Cupertino, CA, USA*  
*(cancelled)* Verification of Apple's *System-on-Chip* (SoC) cryptographic primitives.

*Summer '19* **SDE Intern @ AWS** *Cupertino, CA, USA.*  
Working with [Dr Oksana Tkachuk](#) on logics and tools to reason about the security of cloud deployments. Application Security group (AppSec).

*Spring '18* **SDE Intern @ AWS** *Cupertino, CA, USA*  
Working with [Dr Oksana Tkachuk](#) on formal methods for Threat Modeling. Automated Reasoning Group (ARG).

## PUBLICATIONS & ONGOING WORK

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- Cauli, C. and Piterman, N. *Equivalence of  $\mu^P$ -Calculus and  $p$ -Automata*. Implementation and Application of Automata: 22nd International Conference, CIAA 2017, Proceedings (2017)  
[Paper](#) [One-Page Abstract](#) [Poster](#)
- Cauli, C., Li, Meng, Piterman, N., and Tkachuk, Oksana. *Pre-Deployment Security Assessment for Cloud Services through Semantic Reasoning*. CAV 2021  
[Paper](#) [5-min Talk @ CAV21](#) [25-min Talk @ CAV21](#) [5-min Talk @ KR20 DC](#)
- Cauli, C., [Ortiz, Magdalena](#), Piterman, N. *Closed- and Open-world Reasoning in DL-Lite for Cloud Infrastructure Security*. KR 2021

## PATENTS

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- Tkachuk, O., Cauli, C., Rungta, N., Bolignano P. V., Hortala J. R., Maher, S. *Automatically generating a machine-readable threat model using a template associated with an application or service*. US Patent 11,128,653. Assignee: Amazon Technologies Inc  
[Patent](#)

## PRIZES AND AWARDS

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Best Speaker – 1<sup>st</sup> Prize      *London Hopper Colloquium 2017*      [Abstract](#)      [Slides](#)  
Best Poster Award – 3<sup>rd</sup> Prize      *ACM-W UK-Inspire 2017*  
Researcher Development Fund Award 2017      *Graduate School, UoL*  
O-Sys Best Student Prize 2016      *Dept. of Informatics, UoL*  
Best Theoretical Project Prize 2016      *Dept. of Informatics, UoL*

## PARTICIPATION TO EVENTS

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*Speaker*    ACM-W UK Inspire 2017      *University of Hertfordshire, UK, 12 May 2017*  
*Speaker*    London Hopper Colloquium 2017      *BCS Headquarters London, UK, 25 May 2017*  
*Speaker*    CIAA 2017      *Université Paris-Est Marne-la-Vallée, Paris, 27–30 June 2017*  
Marktoberdorf Summer School      *Marktoberdorf, Germany, 2–11 August 2017*  
ACM womENcourage 2017      *Universitat Politècnica de Catalunya, Barcelona, 6–8 Sept. 2017*  
Highlights of Logics, Games, and Automata      *Queen Mary University, London, 12–15 Sept. 2017*  
*Speaker*    ICCSW'17      *Imperial College London, 26–27 Sept. 2017*  
2<sup>nd</sup> Winter School in Formal Verification      *Jerusalem, 17–21 December 2017*  
FLoC 2018 & CAV2018      *University of Oxford, Oxford, 12–16 July 2018*  
*Invited Speaker*    London Hopper Colloquium 2018      *BCS HQ London, UK, October 2018*  
Facebook TaV Symposium 2019      *Facebook HQ, London, November 2019*  
*Speaker*    KR 2020 Doctoral Consortium      *Virtual, September 2020*  
*Speaker*    FMCAD 2020 Doctoral Consortium      *Virtual, October 2020*  
*Speaker*    AWS      *Virtual, February 2021*  
*Speaker*    CAV 2021      *Virtual, July 2021*  
*Speaker*    DL 2021      *Virtual, September 2021*  
*Speaker*    KR 2021      *Virtual, November 2021*

## TEACHING

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During the part of my PhD that was spent at the University of Leicester, my teaching obligations included: lab sessions, surgeries, problem classes, coursework marking, exam invigilations, and small-group teaching. I have been a Teaching Assistant for the following modules:

CO7105    *Advanced C++ Programming*  
CO2008    *Functional Programming*  
CO1012    *Discrete Structures*  
CO1005    *Data Structures and Development Environments*  
CO1016    *Computer Systems*  
CO1003    *Program Design in Java*

## THESES

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MSc Thesis    “AUTOMATA-THEORETIC TECHNIQUES FOR PROBABILISTIC  $\mu$ -CALCULUS”,  
Department of Informatics, University of Leicester, 2016.  
Supervisor: Dr Nir Piterman

BSc Thesis    “SIMULATION AND ANALYSIS OF A RESERVATION MARKETPLACE”,  
Department of Mathematics and Informatics, Università degli Studi di Cagliari, 2015.  
Supervisor: Dr Massimo Bartoletti

## CERTIFICATES & PERSONAL SKILLS

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ADVANCED COMMUNICATION	Popular Science Presentation Training	2020
THE LEICESTER AWARD	Personal Skills Development Programme	2016
GRE – 313/340	Quantitative 161/170, Verbal 152/170	2015
IELTS – 7.5	International English Language Testing System	2014

# TECHNICAL SKILLS

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PROGRAMMING      Java, Scala, C++  
TOOLS                IntelliJ, Eclipse, Git

# LANGUAGES

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ENGLISH    Fluent                ITALIAN    Native                SPANISH    Beginner  
SWEDISH    Beginner